AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended): A system for assisting the regeneration of depollution means ~~(4)~~ associated with oxidation catalyst-forming means ~~(3)~~ integrated in an exhaust line ~~(2)~~ of a motor vehicle diesel engine ~~(1)~~, and in which the engine ~~(1)~~ is associated with common manifold means ~~(5)~~ for feeding fuel to its cylinders, the system being adapted to implement, at constant torque, a strategy of regeneration by injecting fuel into the cylinders of the engine in at least one post-injection, <u>wherein</u> the system ~~being characterized in that it~~ includes detection means ~~(7, 8, 9)~~ for detecting a stage in which the vehicle engine is idling and/or in which the accelerator pedal is being raised, and analysis means ~~(6)~~ for analyzing the activity state of the catalyst-forming means ~~(3)~~ in order to control the common fuel-feed manifold means ~~(5)~~ in order to regulate the quantity of fuel injected during the or each post-injection as a function of the activity state of the catalyst-forming means ~~(3)~~;

~~in that~~ <u>wherein</u> the analysis means ~~(6)~~ for analyzing the activity state of the catalyst-forming means ~~(3)~~ are connected to temperature sensors ~~(10, 11)~~ upstream and downstream from the catalyst-forming means in order to determine an operating point thereof and including determination means ~~(6)~~ responsive to said operating point for determining the activity state of the catalyst-forming means; and

~~in that~~ <u>wherein</u> the determination means ~~(6)~~ for determining the activity state of the catalyst-forming means ~~(3)~~ are adapted to compare the operating point of said means with two predetermined activity state transition curves ~~(C1, C2)~~ defining ranges for an inactive state, an active state, and an activity-confirmed state

of the catalyst-forming means ~~(3)~~ and for confirming a state after a first predetermined period of time for confirming that the catalyst-forming means are in said state.

2. (Currently amended): A system according to claim 1, ~~characterized in that~~wherein various hysteresis differences are used depending on the direction of transitions from one state of the catalyst-forming means ~~(3)~~ to another, in order to confirm the state.

3. (Currently amended): A system according to claim 1 ~~or claim 2, characterized in that~~, wherein the determination means ~~(6)~~ are adapted to maintain information that the catalyst-forming means ~~(3)~~ are in an inactive state during a second predetermined time period after the operating point of said means has crossed the corresponding inactive-to-active transition curve ~~(C1)~~.

4. (Currently amended): A system according to claim 2 ~~or claim 3, characterized in that~~, wherein the time periods and the hysteresis differences are calibratable.

5. (Currently amended): A system according to ~~any preceding claim, characterized in that~~ 1, wherein, when the catalyst-forming means ~~(3)~~ are in an activity-confirmed state, the common manifold means ~~(5)~~ are adapted to inject a nominal quantity of fuel during the or each post-injection, when the catalyst-forming means ~~(3)~~ are in an active state, the common manifold means ~~(5)~~ are adapted to reduce the quantity of fuel injected during the or each post-injection by a multiplier factor, as a function of the difference between the operating point of said catalyst-forming means ~~(3)~~ and the corresponding transition curve between an active state and an inactive state ~~(C1)~~, and when the catalyst-forming means ~~(3)~~ are in an inactive state, the common manifold means ~~(5)~~ are adapted to limit the quantity of fuel injected during the or each post-injection to a predetermined minimum value.

6. (Currently amended): A system according to claim 5, ~~characterized in that~~wherein the minimum value is equal to 0.

7. (Currently amended): A system according to claim 5 ~~or claim~~

~~6, characterized in that~~, wherein the common manifold feed means ~~(5)~~ are adapted to trigger a plurality of fuel post-injections, and ~~in that~~wherein the quantity of fuel injected during each post-injection while the catalyst-forming means ~~(3)~~ are in an active state is regulated independently from the quantity of the other post-injection.

8. (Currently amended): A system according to ~~any preceding~~ claim~~, characterized in that~~ 1, wherein the engine is associated with a turbocharger.

9. (Currently amended): A system according to ~~any preceding~~ claim~~, characterized in that~~ 1, wherein the depollution means ~~(4)~~ comprise a particle filter.

10. (Currently amended): A system according to ~~any preceding claim, characterized in that~~claim 1, wherein the depollution means ~~(4)~~ comprise a NOx trap.

11. (Currently amended): A system according to ~~any preceding claim, characterized in that~~claim 1, wherein the fuel includes an additive for being deposited together with the particles with which it is mixed on the depollution means ~~(4)~~ in order to facilitate regeneration thereof.

12. (Currently amended): A system according to ~~any one of claims 1 to 10, characterized in that~~claim 1, wherein the fuel includes a NOx trap forming additive.